REMARKS

Applicants have canceled Claims 1, 18, 20, and 22 herein, as being drawn to non-elected inventions. Applicants reserve the right to pursue the subject matter of these claims in one or more divisional applications. Applicants also have amended Claims 2, 3, 5, 7, 21 and 23 for clarity herein. Enabling support for the amendments can be found in the application as filed (*See, e.g.*, original claims and Col. 2, para. [0030]). Therefore, no new matter is contained in the amendments. Reconsideration of the present application and allowance of pending Claims 2-17, 19, 21, and 23 are respectfully requested in view of the amendments and following remarks.

I. Restriction Requirement

The Office Action made final the previous restriction requirement. Accordingly, Applicants have canceled Claims 1, 18, 20, and 22 herein, as being drawn to a non-elected invention. Applicants reserve the right to prosecute the subject matter of the canceled claims in one or more continuation or divisional applications.

II. Rejections under 35 U.S.C. § 112, second paragraph

Claims 2-17, 19, 21, and 23 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Office Action alleged that the claims were unclear based on the recitation of certain terms or phrases. Applicants respectfully submit that the currently pending claims particularly point out and distinctly claim the subject matter of the invention.

Claim 2 was rejected as being unclear as to what was meant by the phrase "a regeneration step." Applicants respectfully submit that this rejection is moot as Claim 2 has been amended to delete the phrase "in a regeneration step." As described in the instant specification, for example at paragraph [0030], the described process is a cyclic process which can be divided into two phases, a synthesis or production phase and a regeneration phase. The ammonium salts formed in the synthesis phase are thermally decomposed during the regeneration phase and then

discharged from the reaction volume. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Claim 5 was rejected as being unclear what compounds fall under the general formula X-N-Y. Applicants respectfully submit that "X-N-Y" is a structural formula of a compound, however, not the complete compound itself. The individual substituents "X" and "Y" are further defined in the claim as comprising "independently of one another, Si, P, Al, Ti, V, Zr, B, Ga and/or In." The letter "N" is known to one skilled in the art as being nitrogen. Accordingly, it is clear that the compound must comprise a Nitrogen molecule and two substituents, each comprising a Si, P, Al, Ti, V, Zr, B, Ga and/or In molecule. Therefore, this rejection should be withdrawn.

Claim 6 was rejected as being unclear how the general formula (I) further limits the general formula X-N-Y of Claim 5. Applicants respectfully submit that Claim 6 refers to a preferred embodiment of a compound having the structural formula "X-N-Y" according to Claim 5. All substituents of the general formula (I) of Claim 6 are defined in the claim itself. Accordingly, this rejection should be withdrawn.

Claims 21 and 23 were rejected as lacking antecedent basis for the phrase "the first reaction step." Applicants respectfully submit that this rejection is moot as Applicants have amended Claims 21 and 23 herein, such that both claims depend from Claim 7, which describes a two-step reaction process. Therefore, this rejection should be withdrawn.

Applicants respectfully submit that the currently pending claims particularly point out and distinctly claim the subject matter of the invention. Therefore, the rejections under 35 U.S.C. § 112, second paragraph should be withdrawn.

III. Rejections under 35 U.S.C. § 102

Claims 2-5 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hey *et al.* (EP 636704). In particular, the Office Action asserted that Hey *et al.* discloses a step of removing ammonium salts formed in a reaction by heating the ammonium salts to a temperature $\geq$ 150°C. Applicants respectfully submit that the currently pending claims are novel over the teachings of Hey *et al.*

A claim is anticipated only when a single prior art reference expressly or inherently teaches each and every feature of the claim. *See Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628 (Fed. Cir. 1987). Hey *et al.* do not teach each and every feature of the presently claimed invention. Claim 2 is directed to a process for preparing a product, in which an ammonium salt is formed as by-product, comprising bringing the ammonium salt formed as a by-product into the gas phase at a temperature of $\geq 150°C$. The Office Action alleged that the process of the presently claimed invention is disclosed, particularly in Example I of Hey *et al.* Applicants respectfully submit that according to Example I of Hey *et al.*, silicon nitride films are deposited onto substrates, whereby a process gas comprising dichlorosilane and ammonia is used. Thereby, deposits of ammonium chloride are formed according to Hey *et al.* at the inlet into the reaction chamber. This ammonium chloride salt is an ammonium salt in the sense of the presently claimed invention. However, according to Example II and Claim 1 of Hey *et al.*, said deposits are not formed, if the inlet into the reaction chamber is heated. Thus, any condensation of by-product is avoided. This procedure, *i.e.*, the continuous heating of the inlets into the reaction chamber, leads to the result that no ammonium salt at all is formed as a by-product in the sense of the invention in the reaction chamber or the inlets into the reaction chamber. Rather, HCl is removed by heat from the reaction system before any by-product and ammonium salt, respectively, is formed.

Moreoever, as discussed above, the processes of the presently claimed invention involve a cyclic process consisting of two phases. The first phase concerns the synthesis or production phase, while the second phase is a regeneration phase. The ammonium salts formed in the synthesis or production phase are thermally decomposed during regeneration and can then be discharged from the reaction volume. By contrast, the reaction procedure according to Hey *et al.* does not teach or suggest the thermal decomposition of already formed ammonium salt by-products, but rather the procedure of Hey *et al.* prevents the by-products from being formed.

The processes of the presently claimed invention, in particular, advantageously describe the transfer of solid by-products formed in the synthesis phase into the gas phase, allowing the separation of undesired by-products from the product. In addition, this transfer of solid by-products to the gas phase allows for the possibility of recirculating valuable starting materials or intermediates present back into the process, after separating off the desired product and the

undesired by-products. Unreacted starting materials thereby can be advantageously fed into the synthesis phase as a feed stream (*See, e.g.*, Col. 3, para. [0037]). Hey *et al.* do not teach or remotely suggest this advantage which can be achieved by the invention.

Hey *et al.* do not teach each and every feature of the claimed methods of the present invention. Therefore, the rejection under 35 U.S.C. § 102(b) should be withdrawn.

IV. Rejections under 35 U.S.C. § 103

Claims 2-17, 19, 21, and 23 were rejected under 35 U.S.C. § 103(a) as being obvious over Hey *et al.* (EP 636704). In particular, the Office Action asserted that Hey *et al.* teach that it was known prior to the filing date of the present application that ammonium salts formed as by-products could be removed in the gaseous form. The Office Action further alleged that the difference between Hey *et al.* and the present invention is that the claims in the present application are directed to removal of ammonium salts formed as by-products in processes that were not explicitly shown in Hey *et al.* Accordingly, the Office Action concluded that it would have been obvious to use the methods of Hey *et al.* in other processes to remove unwanted ammonium salt by-products. Applicants respectfully submit that the presently claimed invention is not obvious over Hey *et al.*

Applicants note that Claim 2 of the present application is directed to a process for preparing a product, in which an ammonium salt is formed as by-product, comprising bringing the ammonium salt formed as a by-product into the gas phase at a temperature of $\geq 150°C$. As discussed in detail above, Hey *et al.* teach the continuous heating of the inlets into the reaction chamber, in order to prevent any ammonium salt at all from being formed as a by-product in the reaction chamber or in the inlets into the reaction chamber. In Hey *et al.*'s procedure, HCl is removed by heat from the reaction system before any ammonium salt by-product is formed. Thus, this is not a case where a known technique is being used to improve other processes in the same way. Further, there is no teaching or suggestion by Hey *et al.* that a heating step would be possible or advantageous at some point after the ammonium salt by-products were allowed to be produced, as is the case in the present invention. Rather, Hey *et al.* simply teach methods to prevent the ammonium salt by-product from being formed at all.

In addition, as also discussed in detail above, the processes of the presently claimed invention advantageously describe the transfer of solid by-products formed in the synthesis phase into the gas phase, allowing the separation of undesired by-products from the product. This transfer of solid by-products to the gas phase allows for the possibility of recirculating valuable starting materials or intermediates present back into the process, after separating off the desired product and the undesired by-products. Unreacted starting materials thereby can be fed into the synthesis phase as a feed stream (*See, e.g.*, Col. 3, para. [0037]). Hey *et al.* do not teach or remotely suggest this advantage which can be achieved by the invention.

Hey *et al.* do not teach or suggest the presently claimed methods. Therefore, the rejection under 35 U.S.C. § 103(a) should be withdrawn.

CONCLUSION

Applicants believe that the present application, as amended, is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The foregoing is submitted as a full and complete response to the Office Action mailed September 20, 2007.

No fees are believed due at this time. However, please charge any fees that may be due, or credit any overpayment, to Deposit Account 19-5029 (Ref. No.: 18744-0029). In addition, if there are any issues that can be resolved by a telephone conference or an Examiner's amendment, the Examiner is invited and encouraged to call the undersigned attorney at (404) 853-8000.

Respectfully submitted,

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